

In the Claims

Please amend the claims as follows:

1. (Currently Amended) A tool for evaluating a fitting assembly of the type having a conduit assembled at one end to a fitting comprising a body, a nut, and at least one conduit gripping device female, the tool comprising:

a source adapted to apply mechanical energy into the conduit; said source receiving reflected energy and producing a signal related thereto; and

an analyzer that determines axial position within the fitting assembly ~~a characteristic~~ of an end ~~portion~~ of the conduit relative to said source, ~~within the fitting as a function of said signal~~.

2. (Withdrawn) The tool of claim 1, wherein the source is integrated with a gap gauge.

3. (Withdrawn) The tool of claim 1, wherein the analyzer is integrated with a gap gauge.

4. (Withdrawn) The tool of claim 1, wherein said tool includes a gap gauge and an ultrasonic analyzer.

5. (Original) The tool of claim 1, wherein said source comprises a separate transmitter and receiver.

6. (Original) The tool of claim 1, wherein said source produces transient shear ultrasonic energy waves.

7. (Currently Amended) The tool of claim 1, wherein said analyzer correlates data based on said received energy from a plurality of source positions.

8. (Original) The tool of claim 7, wherein said correlation is based on a Morlet wavelet correlation function.

9. (Currently Amended) The tool of claim 1, wherein said source applies mechanical energy ~~is applied~~ to the fitting body.

10. (Original) The tool of claim 1, wherein said energy waves are applied to the conduit at an angle within the range of about greater than 0° to about 90° from normal relative to a longitudinal axis of the conduit.

11. (Currently Amended) The tool of claim 1, wherein said axial position of an end of the conduit relative to said source characteristic relates to bottoming of an end of the conduit against a shoulder in the fitting body.

12. (Previously Presented) The tool of claim 10, wherein said source is adapted to apply energy at two or more different locations about the conduit, said source producing a plurality of electrical signals in response to said received energy, each electrical signal corresponding to a respective one of said locations.

13. (Currently Amended) The tool of claim 12 comprising a correlation function of said plurality of electrical signals and wherein said analyzer produces an output that corresponds to said axial position of an end of the conduit based on said correlation.

14. (Currently Amended) The tool of claim 1, further comprising a base adapted to align with a surface of the fitting conduit.

15. (Previously Presented) The tool of claim 14, wherein the base is provided with a mating surface that conforms to a outer surface of the conduit.

16. (Previously Presented) The tool of claim 14, wherein the base comprises a low attenuation plastic.

17. (Previously Presented) The tool of claim 14, wherein the base comprises an acrylic resin.

18. (Currently Amended) The tool of claim 1, wherein the source is positioned at adapted to be positioned relative to a reference position of the fitting.

19. (Currently Amended) The tool of claim 18, wherein said ~~characteristic relates to the relative axial position of the end of the conduit is,~~ relative to the reference position of the fitting.

20. (Currently Amended) The tool of claim 19, wherein the analyzer is adapted to compare the ~~relative~~ axial position of the end of the conduit, relative to the reference position of the fitting, to corresponding test data for a properly installed fitting assembly.

21-22. Canceled.

23. (Currently Amended) A tool for evaluating a fitting assembly of the type having a conduit assembled at one end to a fitting comprising a body, a nut, and at least one ferrule, the tool comprising:

a source adapted to apply mechanical energy into the conduit; said source receiving reflected energy and producing a signal related thereto; and

an analyzer that determines a characteristic of an end portion of the conduit within the fitting as a function of said signal. The tool of claim 1, wherein said characteristic relates to the relative axial position of an impression in the conduit formed by the at least one ferrule assembled to the conduit, relative to a position of the source.

24. (Previously Presented) A tool for evaluating a fitting assembly of the type having a conduit assembled at one end to a fitting comprising a body, a nut, and at least one ferrule, the tool comprising:

a source adapted to apply mechanical energy into the conduit; said source receiving reflected energy and producing a signal related thereto; and

an analyzer that determines a characteristic of an end portion of the conduit within the fitting as a function of said signal. ~~The tool of claim 1,~~ wherein said characteristic relates to the presence of an impression in the conduit formed by the at least one ferrule assembled to the conduit.

25. (Currently Amended) The tool of claim 1, wherein said analyzer is adapted to compare said axial position characteristic to a corresponding axial position characteristic related to a properly pulled-up assembled fitting assembly.

26-64. Canceled.

65. (Currently Amended) The tool apparatus of claim 1 ~~43~~, wherein said source comprises a transmitter and receiver in ~~are~~ a single device.